Attorney Docket No.: P-71986-US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Ofer Wald	Examiner:	CHENEY, BOBAE K.
Serial No.:	10/598161	Group Art Unit:	2469
Filed:	7/23/2008	Confirmation No.:	P-71588-US
Title:	A METHOD AND DEVICE FOR PPER TO PEER FILE SHARING		

RESPONSE

Mail Stop RCE
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Amendment is being filed in response to the Final Office Action mailed October 13, 2010 by the United States Patent and Trademark Office in connection with the above-identified Application. A response to the October 13, 2010 Office Action is due January 13, 2011. Accordingly, this paper is being timely filed.

A request for continued examination (RCE) is being filed as part of the response to the Final Office Action.

Kindly consider the following remarks.

REMARKS

The present response is intended to be fully responsive to all points of rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1- 36 are pending.

Claims 1-36 have been rejected.

Neither one of the claims was amended.

CLAIM REJECTIONS

35 U.S.C. § 103(a) Rejection

In the Office Action, the Examiner rejected claims 1-4, 9, 11-14, 19, 22, 23, 26, 27, 29, 30, 33, 34 and 36 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent application publication 2002/0062372 (hereinafter Hong) in view of U.S. patent 7558875 (hereinafter Zhang).

Applicants respectfully traverse the rejection of claims 1-4, 9, 11-14, 19, 22, 23, 26, 27, 29, 30, 33, 34 and 36 under 35 U.S.C. §103(a).

Claim 1

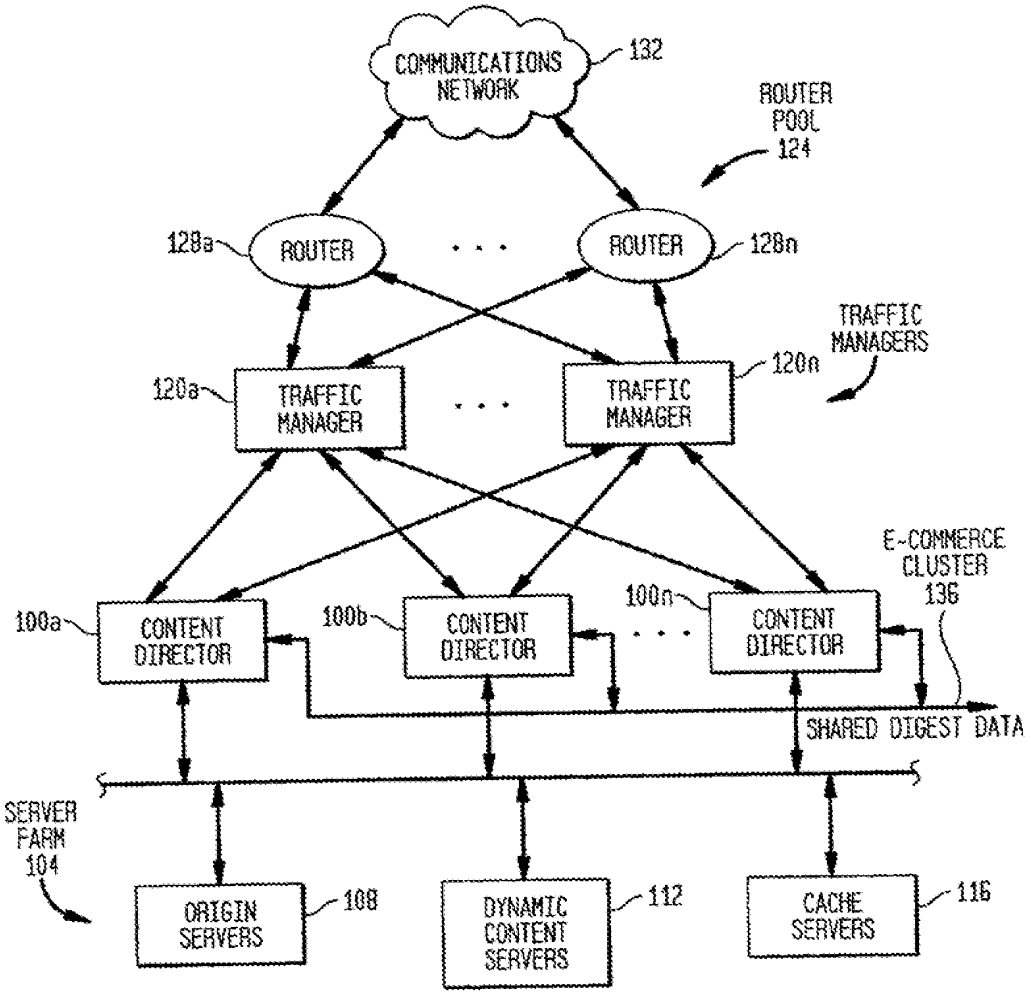
Hong

Hong teaches of server/client applications. Hong especially teaches of load balancing in server farms that support server/client applications (see, for example, paragraphs [[0002], [0003], [0004], [0012]):

Businesses are rapidly becoming computer and network dependent. Web technology is adding momentum to E-Commerce deployment by providing user friendly front ends for applications. Continuous access to and instantaneous responses from the hosted services are essential for successful client/server applications. Down times and slow and/or erroneous responses can lead to customer frustration and sales losses. Accordingly, there is an increasing demand for server high availability and performance.

To achieve the levels of server availability, performance, and scalability (in view of the time dependent, dramatic spikes in website usage), a farm of servers or server farm with one or more intelligent Internet protocol or IP switches are typically employed. The IP switch performs load balancing of Internet Protocol or IP traffic across the multiple servers based on information contained in one or more layers of the OSI network model...

In one embodiment, the invention provides a network flow switch that is coupleable between a communications network and a data server farm. In one configuration, the network flow switch is configured as a Layer 2, 3, and 4 Web switch and assumes the global IP addresses of a server farm and receives all transaction requests from clients on behalf of the server farm.



It is noted that in paragraph [0090] Hong briefly states that his invention can be applied to peer to peer networks but Hong does not provide an enabling disclosure of such an embodiment. Especially, the architecture described by Hong is so strongly linked to server/client applications that such a modification to peer to peer architectures seems improbable.

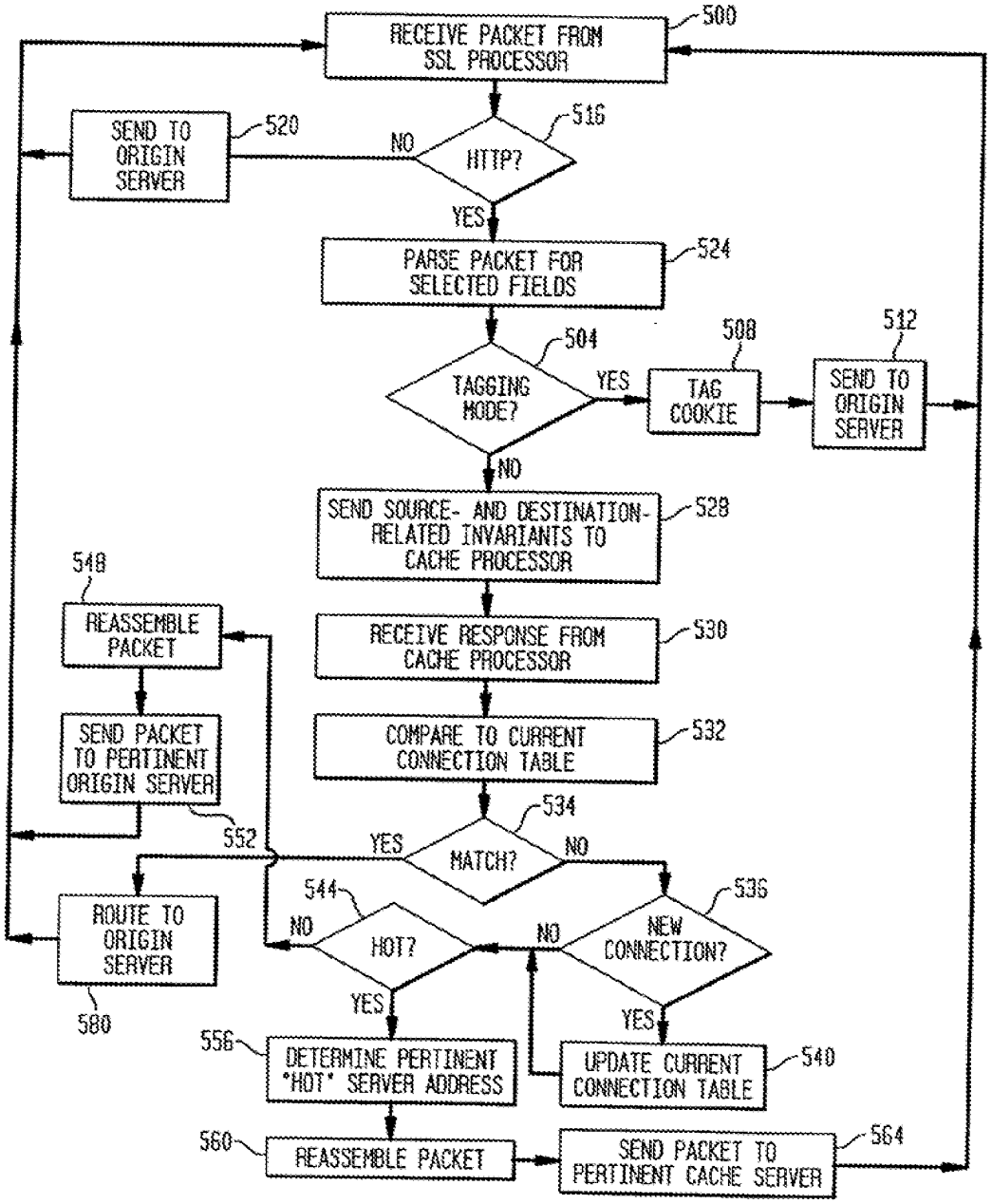
In any case, Hong teaches of a cache server that may interrupt a transaction request intended for an origin server and serves the request (paragraph [0020]) but both the origin server and the cache server belong to the server farm. If content is hot it will be provided by a cache server of the server farm, else it will be provided by the origin server:

A "cache server" interrupts the transaction requests intended for origin servers and serves them from its storage) while an "origin server" is the server for which a selected transaction request was originally intended or originated from (e.g., the server identified by the packet cookie)...

As flows to some servers become hot (i.e., the number of requests for an object in a server received in a predetermined period of time meets or exceeds the hot URL threshold), that server's IP address is entered into the hot IP database and new connections to that hot web server are then redirected by the content director to the HTTP cache servers 116. The redirected or switched flow is referred to as a switched flow while an unswitched flow to an origin server is referred to as forwarded flow…

When the traffic pattern to the hot server cools down, its IP address will age out from the hot IP or URL database in cache 212 and traffic to that server reverts back to its normal flow. The various components of the content director are discussed in more detail below.

The provision of content from either an origin server of the server farm or the cache server of the server farm is also illustrated in stages 544, 580 and 564 of method 500 of figure 5 of Hong:



Hong teaches that the server farm (paragraph [0083]) can have a geographically distributed configuration and that a single server farm may include multiple server clusters.

Nevertheless – even this geographically distributed configuration the server farm of Hong is used (as other server farm configurations illustrated in Hong) for serving server/client application, and even such a configuration will merely switch the request to a cache server of the server farm or to an origin server of the server farm.

Accordingly, Hong does not teach or suggest of ISP networks, of a predetermined devices that do not belong to the ISP network, and does not teach or suggest any of the features of claim 1.

For example, Hong does not teach or suggest of any of the stages:

- Identifying a peer to peer request for a requested file that is stored within a cluster of servers;
- Checking if the requested file is stored at one of predetermined devices that do not belong to the ISP network and the requested file does not belong to the cluster of servers;
- Wherein if the requested file is stored in a predetermined device out of the predetermined devices the method comprises providing a list of possible file sources, the list comprises a member of the cluster of servers that stores the requested file and the predetermined device that stores the requested file.

Zhang

The Office admitted Hong does not expressly teach providing a list of possible sources but argued that Zhang teaches providing A boot list that lists all peer group candidates (file sources – column 8, lines 43-62) and that the list includes the first peer group that is closets to client and a second closets peer group to client (figure 10).

Zhang teaches of a manner of defining peer to peer networks (overlay networks) so that peers of an overlay network have a similar transport network proximity measure with respect to the peers in other peer groups (Abstract; column 2, lines 17-21):

In an embodiment of the invention, overlay network peers are grouped so that each peer in a peer group has a similar transport network proximity measure with respect to the peers in other peer groups...

In an embodiment of the invention, the peer decides to join the overlay network peer group if the first set of transport network distances is near to the second set of transport network distances. In an embodiment of the invention, a join locality-aware overlay module is configured to determine if the first set of transport network distances is near to the second set of transport network distances.

It is noted that the definition of a peer network is not responsive to file content but rather to transport network distance – which is a physical parameter and is not related to the content of files.

A peer may include a boot peer cache that may include a list of one or more peers in the overlay network that may be utilized as starting points for the (locality-aware) peer when it is searching for a peer group in its transport network locality (column 6, lines 43-48).

Figure 10 illustrates a method for allowing a locality-aware peer to join a locality-aware overlay network (column 3, lines 23-14). The outcome of this method can include joining a peer group (box 1016) or establishing a new peer group (box 1020).

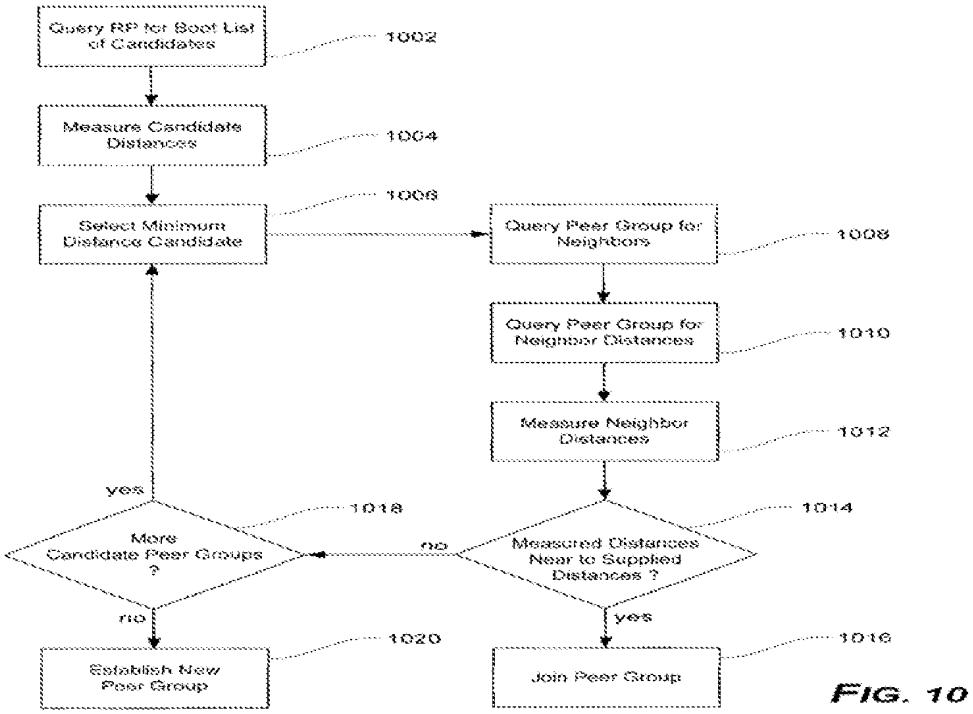


FIG. 10

Accordingly, Zhang does not teach of a possible file sources but rather illustrates how to form peer to peer networks. The boot list does not list file sources but rather lists potential peers to a peer to peer network.

Applicants assert that neither Zhang or Hong, alone or in cousin, teach or suggest all the limitations of claim 1.

Therefore, claim 1 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1.

Claims 2-10 depend from claim 1 and therefore include all the limitations of this claim. Therefore, Applicants respectfully assert that claims 2-10 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections to claims 2-10.

Claim 11

Claim 11 differs from claim 1 but the same arguments mentioned above in relation to the 35 U.S.C. §103(a) rejection of claim 1 should be applied mutatis mutandis to the 35 U.S.C. §103(a) rejection of claim 11.

Therefore, claim 1 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1.

Claims 12-21 depend from claim 1 and therefore include all the limitations of this claim. Therefore, Applicants respectfully assert that claims 12-21 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections to claims 12-21.

Claim 22

Hong

Hong teaches of server/client applications. Hong especially teaches of load balancing in server farms that support server/client applications (see, for example, paragraphs [[0002], [0003], [0004], [0012]).

It is noted that in paragraph [0090] Hong briefly states that his invention can be applied to peer to peer networks but Hong does not provide an enabling disclosure of such an embodiment. Especially, the architecture described by Hong is so strongly linked to server/client applications that such a modification to peer to peer architectures seems improbable.

A cache server may interrupt a transaction request intended for an origin server and serves the request (paragraph [0020]) but both the origin server and the cache server belong to the server farm. If content is hot it will be provided by a cache server of the server farm, else it will be provided by the origin server.

The provision of content from either an origin server of the server farm or the cache server of the server farm is also illustrated in stages 544, 580 and 564 of method 500 of figure 5 of Hong.

Hong teaches that the server farm (paragraph [0083]) can have a geographically distributed configuration and that a single server farm may include multiple server clusters.

Nevertheless – even this geographically distributed configuration the server farm of Hong is used (as other server farm configurations illustrated in Hong) for serving server/client application, and even such a configuration will merely switch the request to a cache server of the server farm or to an origin server of the server farm.

Accordingly, Hong does not teach or suggest of monitoring peer to peer requests, of ISP networks, of a predetermined devices that do not belong to the ISP network, and does not teach or suggest any of the features of claim 22.

For example, Hong does not teach or suggest of any of the stages:

- Providing a plurality of predetermined devices that do not belong to an ISP network and do not belong to the cluster (that include the cache that is adapted to service peer to peer requests from the first group of users), wherein the predetermined devices are adapted to service peer to peer requests from a first group of users;
- Monitoring peer to peer traffic between at least one other group of users;
- And selectively caching at the cache at least a portion of the monitored peer to peer traffic on a cache that belongs to the cluster of servers and on plurality of predetermined devices that do not belong to an ISP network and do not belong to the cluster;

Zhang

The Office admitted Hong does not expressly teach providing multiple peer groups but that Zhang teaches providing multiple peer groups.

Zhang teaches of a manner of defining peer to peer networks (overlay networks) so that peers of an overlay network have a similar transport network proximity measure with respect to the peers in other peer groups (Abstract; column 2, lines 17-21).

Zhang does not illustrate how peer to peer traffic is managed by the peer groups, does not teach of a monitoring peer to peer traffic of another group of peers and does not teach or suggest at least the following stages of claim 22:

- Providing a plurality of predetermined devices that do not belong to an ISP network and do not belong to the cluster (that include the cache that is adapted to service peer to peer requests from the first group of users), wherein the predetermined devices are adapted to service peer to peer requests from a first group of users;
- Monitoring peer to peer traffic between at least one other group of users;
- And selectively caching at the cache at least a portion of the monitored peer to peer traffic on a cache that belongs to the cluster of servers and on plurality of predetermined devices that do not belong to an ISP network and do not belong to the cluster;

In the rejection, the Office referred to the boot list of Zhang – but this list is irrelevant as is merely includes a list of one or more peers in the overlay network that may be utilized as starting points for the (locality-aware) peer when it is searching for a peer group in its transport network locality (column 6, lines 43-48).

Applicants assert that neither Zhang or Hong, alone or in cousin, teach or suggest all the limitations of claim 22.

Therefore, claim 22 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 22.

Claim 23

The Office admitted Hong does not expressly teach providing peer to peer files previously stored in a member of the cluster from outside the cluster of servers if the member of the cluster fails, but that Zhang teaches providing multiple peer groups to reduce the risk of overlay network partition due to localized transport network failure.

Zhang does not address the manner in which content is shared between members of a peer to peer network but rather concentrates on the establishment of peer to peer networks. For example, Zhang teaches how a peer can join a peer group.

Figure 7 of Zhang illustrates multiple peer groups that are connected to each other. Figure 7 is described in lines 14-39 of column 7. Lines 14-39 of column 7, were referenced by the Office – but these lines merely illustrate that peer groups should be connected to multiple peer groups in order to maintain the (peer to peer) overlay network in tact even if a transport communication failure occurs:

FIG. 7 illustrates an example of a locality-aware overlay network 700 with multiple peer groups in accordance with an embodiment of the invention. Each peer group 702, 704, 706, 708, 710, 712, 714, 716, 718, 720 includes at least one locality-aware peer. The locality-aware overlay network 700 has a rendezvous point 722. Locality-aware peer 724 of FIG. 7 has not yet joined overlay network 700.

Each peer group has at least one overlay network connection to another peer group... In an embodiment of the invention, a peer group may have an overlay network connection to a random other peer group, as well as nearby peer groups, in order to, for example, reduce the risk of overlay network partition due to localized transport network failure.

Accordingly- Zhang does not teach or suggest distributing peer to peer files between the various members of the cluster and providing peer to peer files previously stored in a member if the cluster from outside the cluster of servers if the member of the cluster fails – as recited in claim 23.

Applicants assert that neither Zhang or Hong, alone or in cousin, teach or suggest all the limitations of claim 23.

Therefore, claim 23 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 23.

Claims 24-29 depend from claim 23 and therefore include all the limitations of this claim. Therefore, Applicants respectfully assert that claims 24-29 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections to claims 24-29.

Claim 30

Claim 30 differs from claim 23 but the same arguments mentioned above in relation to the 35 U.S.C. §103(a) rejection of claim 23 should be applied mutatis mutandis to the 35 U.S.C. §103(a) rejection of claim 30.

Therefore, claim 30 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 30.

Claims 31-36 depend from claim 1 and therefore include all the limitations of this claim. Therefore, Applicants respectfully assert that claims 31-36 are likewise allowable. Accordingly, Applicants respectfully request that the Examiner withdraw the rejections to claims 31-36.

35 U.S.C. § 103(a) Rejection

In the Office Action, the Examiner rejected claims 5-8, 15-18, 21, 28 and 35 under 35 U.S.C. §103(a), as being unpatentable over Hong in view of Zhang and in further view of U.S. patent application publication 2003/0210694 (hereinafter - Jayaraman).

Applicants respectfully traverse the rejection of claims 5-8, 15-18, 21, 28 and 35 under 35 U.S.C. §103(a).

Jayaraman does not amend the deficiencies of Hong and Zhang in relation to independent claims 1, 11, 23 and 30 from which claims 5-8, 15-18, 21, 28 and 35 depend.

For this reason alone claims 5-8, 15-18, 21, 28 and 35 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 5-8, 15-18, 21, 28 and 35.

35 U.S.C. § 103(a) Rejection

In the Office Action, the Examiner rejected claims 10, 20, 25 and 32 under 35 U.S.C. §103(a), as being unpatentable over Hong in view of Zhang and in further view of U.S. patent 6792544 (hereinafter - Hashem).

Applicants respectfully traverse the rejection of claims 10, 20, 25 and 32 under 35 U.S.C. §103(a).

Hashem does not amend the deficiencies of Hong and Zhang in relation to independent claims 1, 11, 23 and 30 from which claims 10, 20, 25 and 32 depend.

For this reason alone claims 10, 20, 25 and 32 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 10, 20, 25 and 32.

35 U.S.C. § 103(a) Rejection

In the Office Action, the Examiner rejected claims 24 and 31 under 35 U.S.C. §103(a), as being unpatentable over Hong in view of Zhang and in further view of U.S. patent application publication serial number 2002/0023173 (hereinafter - Jacobs).

Applicants respectfully traverse the rejection of claims 24 and 31 under 35 U.S.C. §103(a).

Hashem does not amend the deficiencies of Hong and Zhang in relation to independent claims 23 and 30 from which claims 24 and 31 depend.

For this reason alone claims 24 and 31 should be allowed.

Applicants respectfully request reconsideration and withdrawal of the rejection of claims 24 and 31.